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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/530,342	04/27/2000	S. CRAIG BALL	BALL1-2-3	4451

7590

08/30/2002

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EXAMINER

HOFFMANN, JOHN M

ART UNIT

PAPER NUMBER

1731

DATE MAILED: 08/30/2002

13

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/530,342

Applicant(s)

BALL ET AL.

Examiner

John Hoffmann

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 August 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 6-8, 10-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6-8 and 10-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 21 August 23, 2002 has been entered.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 6-8 and 10-14 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

There is no support for the tube being comprised of "at least two separate, interconnected tubular sections". If two things are interconnected then they cannot be separate. They are two opposite things.

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The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 6-8 and 10-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 6 has been amended to read that the sections are "separate, interconnected". These are two opposite conditions. One cannot understand what this limitation requires. The specification does not point out how two things can be separate and interconnected.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6, 10-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohga EP464613.

Ohga discloses the invention at col. 5, line 19 and figure 1. However, Ohga does not disclose the purity of the material. It would have been obvious to use silicon carbide that is as pure as technologically possible. It is well known that impurities in anything

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are generally not desirable. As to the tubular sections, one can arbitrarily designate the top half of the Ohga tube as a first section, and the lower half as a second section.

As to the new language that indicates that the muffle has "separate, interconnected" sections. It is deemed that this limitation is met in at least one of the following 3 ways:

- 1) It is met in the same way that Applicant's invention meets the language
- 2) There is no conjunction between "separate" and "interconnected". These two terms are mutually exclusive conditions. The only way this can make sense is that the missing conjunction is "or". The top section and the bottom section, of the Ohga tube, are interconnected.
- 3) One can arbitrarily designate that the Ohga tube has a top third section, a middle third section, and a bottom third section. The top and bottom thirds are separate from each other - and they are interconnected via the middle section. Thus they are separate and interconnected.

As to claims 10-11, it would have been obvious to have a low of loss as possible, because a high loss means losing signal integrity and good integrity makes for happier customers.

Claims 12-13: Ohga fails to teach how thick the coating should be. IT would have been an obvious matter of routine experimentation to determine the optimal thickness of the coating. Alternately, it would have been obvious to make the coating as

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thin as possible (yet functional) because thinner coatings take less time and materials to create.

Claim 14: as indicated above, it would have been obvious to use as silicon carbide that is as pure as possible.

Claims 7-8 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohga as applied to claim 6 above, and further in view of Fatzer, 392557.

Fatzer discloses that coating carbon bodies usually has poor adherence (col.2, lines 8-17.) Fatzer discloses a method of coating with SiC with good adherence (col. 4, lines 7-27). It would have been obvious to use the Fatzer method of creating the Ohga coated muffle - for the improved coating characteristics the Fatzer method has.

The cited passage of Fatzer requires the heating of the furnace (i.e. the muffle tube part of the furnace) to temperatures within the claimed range. Thus the limitations of claims 7-8 are met during the claimed "providing" step. It is noted that the claim does not require that all of the furnace be heated to 1900C or that the temperature be maintained during the entire process.

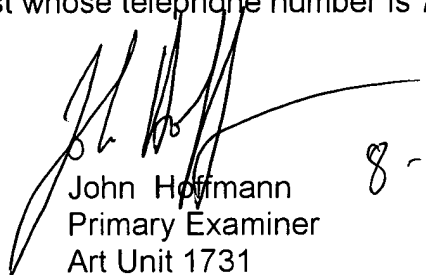
Claim 12: Fatzer's method creates a layer 5 mils thick (col 6, lines 60-63). It would have been obvious to make the layer only 5 mils thick, because it would just take more time and effort to make an even thicker coating.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Hoffmann whose telephone number is 703-308-0469. The examiner can normally be reached on Monday, Tuesday, Wednesday, Thursday, Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Griffin can be reached on 703-308-3837. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7115 for regular communications and 703-305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0651.



John Hoffmann
Primary Examiner
Art Unit 1731

8-28-02

jmh
August 28, 2002